



SERVICE MANUAL

AU-X117

INTEGRATED AMPLIFIER

NOTE

AU-X117 is additional models which external appearances are different from those of AU-X111.

This manual contains PARTS LIST OF BOARD, PACKING & ACCESSORY LIST, SCHEMATIC DIAGRAM and OTHER PARTS.

For servicing, refer to this manual together with AU-X111 service manual previously issued.

CAUTION

1. Parts identified the Δ symbol on the schematic diagram and the parts list are critical for safety.
Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current for resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

Notice

1. Some printed circuit board are not supplied assembled.
To separate these in this Service Manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. Since some capacitors and resistors are omitted from parts lists in service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
3. Abbreviations in this Parts List are as follows.
4. The symbols, SS, EU, EG, and XX on the Parts list and the schematic diagram mean followings respectively.
SS Manufactured for Saudi Arabian market.
EU Manufactured for European market.
EG Manufactured for F.R. Germany market.
XX Standard Version.
NON MARK Common Parts.

Specifications

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.03% total harmonic distortion.
30 watts per channel into 8 ohms.

DIN

40 watts per channel into 8 ohms.

Load impedance 4 to 16 ohms

Intermodulation distortion

(60 Hz: 7 kHz = 4:1 SMPTE method)

..... less than 0.03% at rated
..... power output.

Frequency response (at 1 kHz)

Overall (from CD) 10 to 70,000 Hz,
..... +1 dB, -3 dB
RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)
..... +0.5 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO (MM) 2.5 mV / 47 kohms
(Max. input capability: 140 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD, TUNER, LINE 150 mV / 35 kohms
TAPE-1/DAT, TAPE-2/ADAPTOR 150 mV / 35 kohms

Output level (at 1 kHz)

TAPE REC 150 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO (MM) 78 dB

CD, TUNER, LINE 105 dB

Power requirement AC 120V / 220V / 240V,
..... (50 / 60 Hz)

For European AC 230 V (50 Hz)

Power consumption 150 watts Rated

..... 210 watts Maximum

Dimensions 430 mm (16-15/16") W

..... 125 mm (4-15/16") H

..... 286 mm (11-5/16") D

Weight 5 kg (11.0 lbs) net

..... 6.0 kg (13.2 lbs) packed

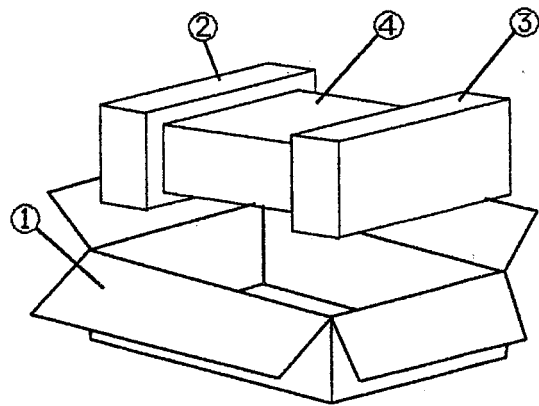
- * Design and specifications subject to changes without notice for improvements.
- * Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

1.PACKING & ACCESSORY LIST

Parts No.	Stock No.	Description
①	85075800	CARTON CASE
②	85081000	STYROFOAM PACKING, LEFT
③	85081100	STYROFOAM PACKING, RIGHT
④	27343910	VINYL BAG
	82022300	OPERATING INSTRUCTIONS (*E)
	92022400	OPERATING INSTRUCTIONS (*E,F,S,G,I,Sw,N)

*NOTE

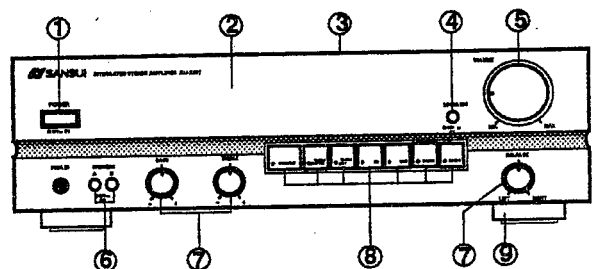
E: English Version
E.F.S.G.I.Sw.N: English, French, Spanish, German, Italian,
Swedish and Netherlands Version.



2.OTHER PARTS

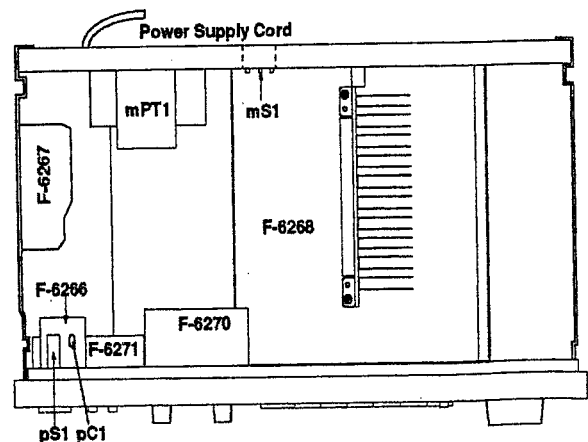
Front View

Parts No.	Stock No.	Description
①	85053710	KNOB, POWER SW.
②	05162900	FRONT PANEL
③	85084500	BONNET
④	85075400	KNOB, LOUDNESS SW.
⑤	85074000	KNOB, VOLUME
⑥	85075600	KNOB, SPEAKER SW.
⑦	85074100	KNOB, TONE, BALANCE
⑧	85076900	KNOB, INPUT SELECTOR
⑨	85074700	LEG



Top View

Parts No.	Stock No.	Description
△ mPT1	15042401	POWER TRANSFORMER<XX,SS>
	15042405	POWER TRANSFORMER<EU,GE>
△ mS1	49543000	SLIDE SW., SPEAKER IMPEDANCE SELECTOR
△ pZ1	46407700	POWER SUPPLY CORD <XX>
	48837700	POWER SUPPLY CORD <SS>
	49299300	POWER SUPPLY CORD <EU,EG>



4.PARTS LIST OF BOARD

Abbreviations List

C.R.	:Carbon Resistor		Electrolytic
S.R.	:Solid Resistor		Capacitor
Ce.R.	:Cement Resistor	Ta.C.	:Tantalum Capacitor
M.R.	:Metal Film Resistor	F.C.	:Film Capacitor
F.R.	:Fusing Resistor	M.P.	:Metalized Paper
N.I.R.	:Non-Inflammable		Capacitor
	Resistor	P.C.	:Polystyrene
A.R.	:Array Resistor		Capacitor
C.C.	:Ceramic Capacitor	M.M.C.	:Metalized Mylar
C.T.	:Ceramic Capacitor,		Capacitor
	Temperature	A.C.	:Array Capacitor
	Compensation	V.R.	:Variable Resistor
E.C.	:Electrolytic	S.V.R.	:Semi Variable
	Capacitor		Resistor
E.L.	:Low Leak	SW.	:Switch
	Electrolytic	Chip.R.	:Chip Resistor
	Capacitor	Chip.C.	:Chip Capacitor
E.B.	:Bi-Polar Electrolytic		
	Capacitor		
E.B.L.	:Low Leak Bi-Polar		

F-6266B Power SW. Board

Parts No.	Stock No.	Description
△ pC1	48733400	0.0047μ F 400V C.C.
	or 48734300	0.0047μ F 400V C.C.
△ pS1	46364300	PUSH SWITCH,POWER

F-6267B Power Fuse Board

Parts No.	Stock No.	Description
△ pF1	49297000	AC FUSE,1.25A <EU,EG>
△ pF1	49627500	AC FUSE,1.5A <XX,SS>
△ pF2	49627500	AC FUSE,1.5A <XX,SS>

F-6268B Main Board

<Stock No.01339601=XX,SS>

<Stock No.01339605=EU>

<Stock No.01339608=EG>

Parts No.	Stock No.	Description
• IC		
IIC1	07208900	NJM4558D-X
IC2	48663000	50V 220 PF C.C.
IC100	48663400	50V 470PF C.C.<EG>
IC101	48662600	50V 100PF C.C.<EG>
• IC		
△ kIC1	49480000	STK4151

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Parts No.	Stock No.	Description
kL1	46851901	COIL 0.82 μH
kC105	48663000	50V 220PF C.C.<E.G.>
kC106	04866200	50V 0.01μF C.C.<E.G.>
kC107	48662600	50V 100PF C.C.<E.G.>
• IC		
△ IIC1	46207600	TA7317P
• DIODE		
ID3	46464100	1SS133
ID4	46464100	1SS133
ID5	48123600	1100
IC7	48101500	6.3V 100 μF B.P.
△ IR17	46404200	680Ω 1/2W N.I.R.
IRL1	48183100	RELAY (DC24V)
	or 48183200	RELAY
	or 49658800	RELAY
• DIODE		
△ mD1	49482000	RBA-402
• ZENER DIODE		
mDZ1	49306000	05AZ15-X
	or 49306100	05AZ15-Y
	or 49306200	05AZ15-Z
mDZ2	49306000	05AZ15-X
	or 49306100	05AZ15-Y
	or 49306200	05AZ15-Z
mDZ3	03171100	RD18F B
	or 03171200	RD18F B3
mR6	46625300	680Ω 2W N.I.R.
mC4	49114800	42V 4700 μF E.C.
mC5	49114800	42V 4700 μF E.C.
mC100	08680400	500V 0.01μF C.C.
mC101	08680400	500V 0.01μF C.C.
mC102	08680400	500V 0.01μF C.C.
mC103	08680400	500V 0.01μF C.C.
• TRANSISTOR		
nQ1	46834200	DTA144ES
• DIODE		
nD1	46464100	1SS133

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Parts No.	Stock No.	Description
•LED		
nLD1	49823700	SEL2910A,PHONO
nLD2	49823700	SEL2910A,TUNER
nLD3	49823700	SEL2910A,LINE
nLD4	49823700	SEL2910A,CD
nLD5	49823700	SEL2910A,TAPE-1/DAT
nLD6	49544500	SEL2210S, TAPE-2/ADAPTOR
nLD7	49544500	SEL2210S,CD DIRECT
oC2	48426900	25V 22000 PF C.C.
oC3	48426900	25V 22000 PF C.C.
oC4	48426900	25V 22000 PF C.C.
oC5	48426900	25V 22000 PF C.C.
oC6	48426900	25V 22000 PF C.C.
oC101	48663400	50V 470PF C.C.
oC102	48663400	50V 470PF C.C.
oC103	48663400	50V 470PF C.C.
oC104	48663200	50V 330PF C.C.
oC105	48663400	50V 470PF C.C.
oC106	48663200	50V 330PF C.C.
oC107	48663400	50V 470PF C.C.
oS1	49481500	PUSH SW.,FUNCTION
oS2	49481600	PUSH SW.,CD DIRECT
oZ1	46947500	SPEAKER TERMINAL 8P
oZ2	48528400	TERMINAL BOARD 2P, PHONO
oZ3	48528600	TERMINAL BOARD 6P, CD,LINE,TUNER
oZ4	48528500	TERMINAL BOARD 4P, TAPE-1/DAT
oZ5	48528500	TERMINAL BOARD 4P, TAPE-2/ADAPTOR

F-6269B Volume Board

Parts No.	Stock No.	Description
jVR1	49481000	250K MN V.R.,BALANCE
jVR2	49480900	150K B X2 V.R.,VOLUME
oS3	49481400	PUSH SW.,LOUDNESS

F-6270B Tone Control Volume Board

Parts No.	Stock No.	Description
jC4	48103000	50V 0.22 μ F E.B.
jC5	48103700	50V 4.7 μ F E.B.
jVR3	49480800	50KC V.R.,TONE CONTROL

F-6271B Headphone Jack Board

Parts No.	Stock No.	Description
Δ KR13	46403600	220 Ω 1/2W N.I.R.
oS4	49481700	PUSH SW.,SYSTEM
oJ1	49495100	HEADPHONE JACK



SANSUI ELECTRIC CO.,LTD:

SANSUI USA INC.:

SANSUI DEUTSCHLAND G.M.B.H.:
山水電気株式会社

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PHONE: (03)5300-5530/FAX:(03)5300-5531
1290 Wall Street West. Lyndhurst,N.J. 07071 U.S.A.
17150 South Margay Ave. Carson, California 90746 U.S.A.
Paul Ehrlich Strasse 8, 6074Rödermark 2, F. R. Germany
東京都杉並区和泉2-14-1 (〒168)

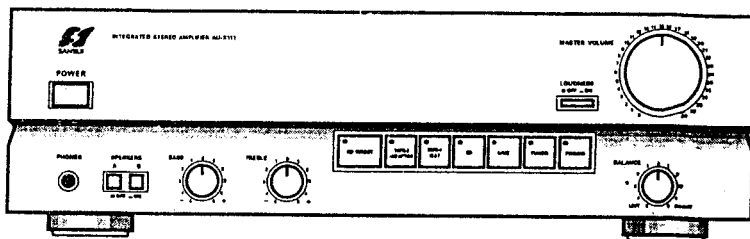
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SERVICE MANUAL

AU-X111 INTEGRATED AMPLIFIER



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NOTICE

The symbols, UK, EU, EG, SS and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.

UK..... Manufactured for United Kingdom market.
EU..... Manufactured for European market.
EG..... Manufactured for F.R. Germany market.

SS..... Manufactured for Saudi Arabian market.
XX <EXPORT>..... Standard Version.
NON MARK..... Common Parts.

Specifications

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.03% total harmonic distortion.
30 watts per channel into 8 ohms.

DIN

40 watts per channel into 8 ohms.

Load impedance

4 to 16 ohms

Intermodulation distortion (60 Hz: 7 kHz = 4:1 SMPTE method)
..... less than 0.03% at rated power output

Frequency response (at 1 watt)

Overall (from CD)..... 10 to 70,000 Hz, +1 dB, -3 dB
RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)
..... +0.5 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO (MM)..... 2.5 mV/47 kohms
(Max. input capability: 140 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD, TUNER, LINE..... 150 mV/35 kohms
TAPE-1/DAT, TAPE-2/ADAPTOR... 150 mV/35 kohms

Output level (1,000 Hz)

TAPE/REC..... 150 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO (MM)..... 78 dB
CD, TUNER, LINE..... 105 dB

Controls and Filter

BASS..... ± 8 dB at 50 Hz
TREBLE..... ± 8 dB at 10 kHz
LOUDNESS..... +6 dB at 50 Hz
(VOLUME: -30 dB position) +6 dB at 10 kHz

Power requirements..... AC 120 V/220 V/240 V, 50/60 Hz

Power consumption..... 165 watts

Dimensions..... 270 watts Maximum
430 mm (16-15/16") W
125mm (4-15/16") H
286 mm (11-5/16") D

Weight..... 5.0 kg (11.0 lbs) net
6.0kg (13.2 lbs) packed

- * Design and specifications subject to change without notice for improvements.
- * Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

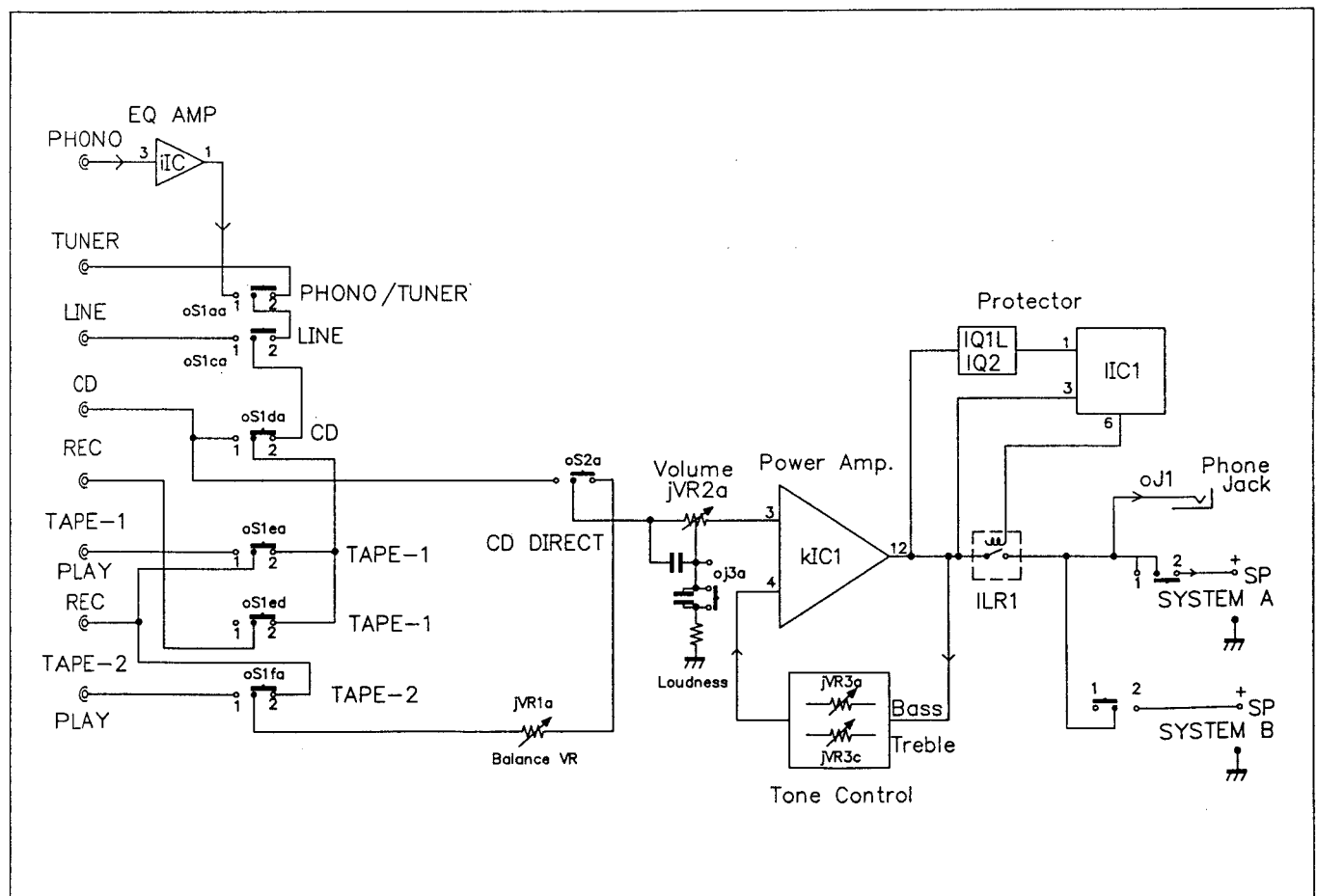
Note to use Service Manual

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To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
3. Abbreviations in this service manual are as follows.

•Abbreviations List

N.I.R.	: Non-Inflammable Resistor
C.R.	: Carbon Resistor
Ce.R.	: Cement Resistor
M.R.	: Metal Film Resistor
F.R.	: Fusing Resistor
A.R.	: Array Resistor
C.C.	: Ceramic Capacitor
C.T.	: Ceramic Capacitor, Temperature Compensation
E.C.	: Electrolytic Capacitor
E.L.	: Low Leak Electrolytic Capacitor
E.B.	: Bi-Polar Electrolytic Capacitor
E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
Ta.C.	: Tantalum Capacitor
F.C.	: Film Capacitor
M.P.	: Metalized Paper Capacitor
P.C.	: Polystyrene Capacitor
M.M.C.	: Metalized Mylar Capacitor
A.C.	: Array Capacitor
V.R.	: Variable Resistor
S.V.R.	: Semi Variable Resistor
SW.	: Switch

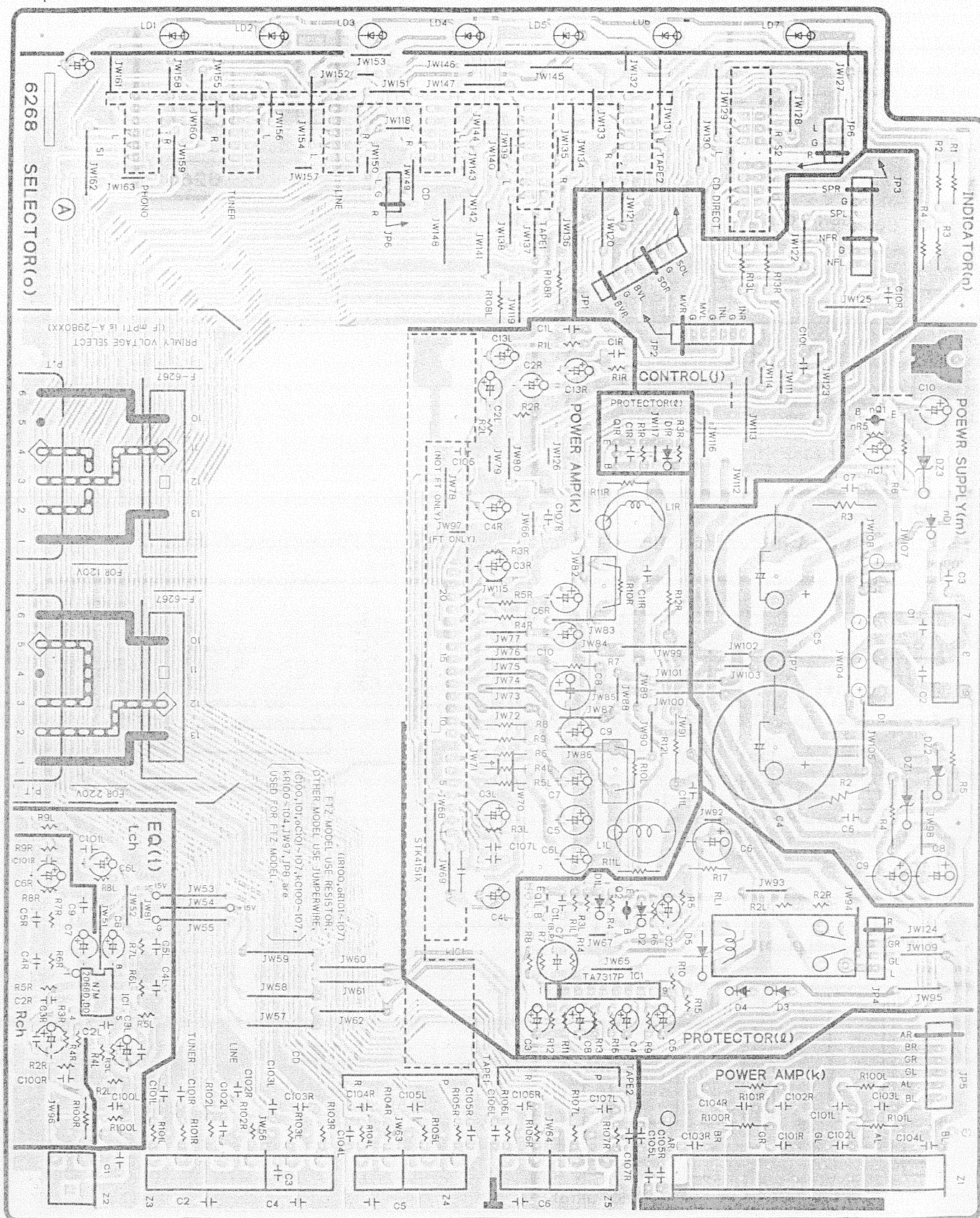
1. BLOCK DIAGRAM



2. PARTS LOCATION ON BOARD

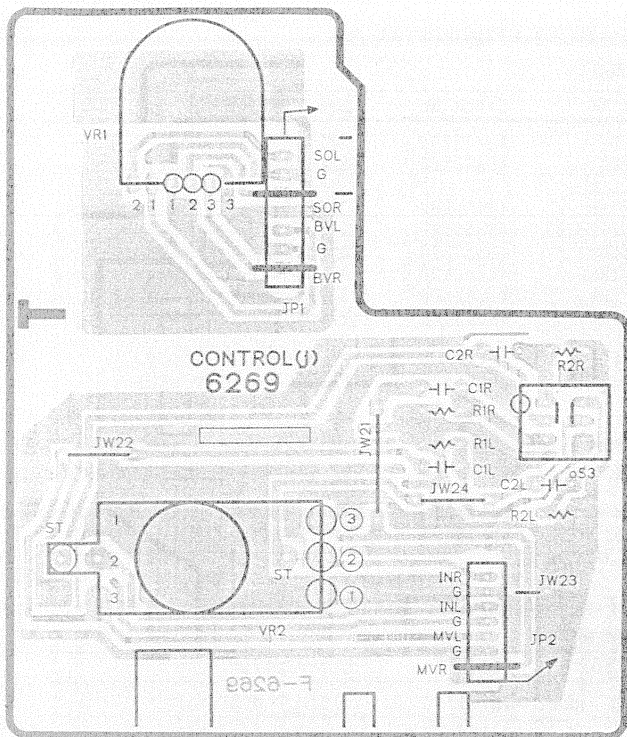
2-1. F-6268 Main Board

Component Side



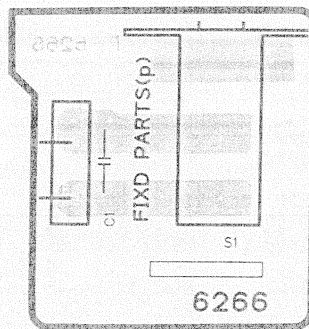
2-2. F-6269 Volume Board

Component Side



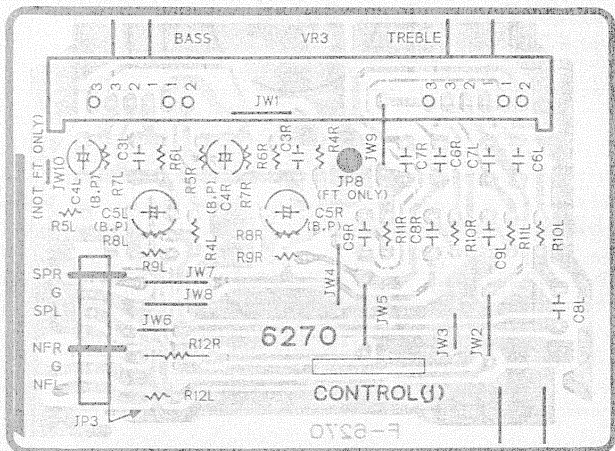
2-3. F-6266 Power Switch Board

Component Side



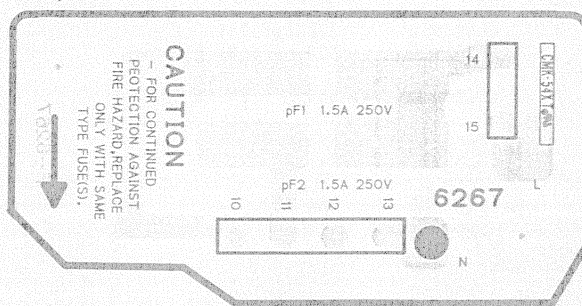
2-4. F-6270 Tone Control Volume Board

Component Side



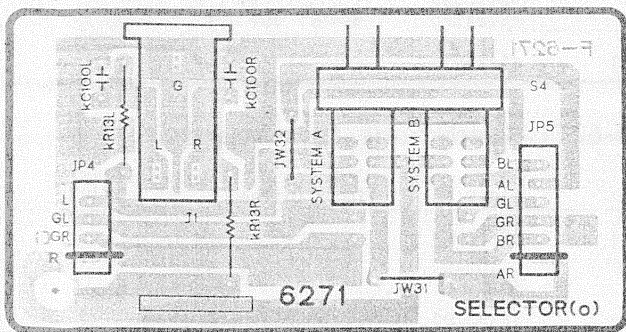
2-5. F-6267 Power Fuse Board

Component Side



2-6. F-6271 Headphone Jack Board

Component Side



3. PARTS LIST OF BOARD

3-1. F-6268 Main Board <Stock No. 01202601=XX, SS/01202605=EU, UK/01202608=EG>

Parts No.	Stock No.	Description
•IC		
i1C1	49263900 or 49264000	NJM2068D NJM2068D-D
iC2	48663000	220pF 50V C. C.
iC100	48663400	470pF 50V C. C. <EG>
iC101	48662600	100pF 50V <EG>
△ k1C1	49480000	STK4151-X
kC105	48663000	220pF 50V C. C. <EG>
kC106	48662200	0.01μF 50V C. C. <EG>
kC107	48662600	100pF 50V C. C. <EG>
kL1	46851901	Filter Coil, 0.82μH
kR4, 5	46405000	3.3kΩ 1/2W N. I. R.
kR6	46403200	100Ω 1/2W N. I. R.
kR8, 9	46404400	1kΩ 1/2W N. I. R.
△ kR10	49283300	0.22Ω 3W Ce. R.
△ kR100, 101	46240800	4.7Ω 1W N. I. R.
•Transistor		
1Q1	46391901 or 48058801	2SC2785 2SC1740S
1Q2	46392001 or 48058601	2SA1175 2SA933S
•IC		
△ 11C1	46207600	TA7317P
•Diode		
1D1~4	46464100 48123600	1SS133 11E2
1C1	48426900	22000pF 25V C. C.
1C7	48101500	100μF 6.3V E. B.
1R17	46404200	680Ω 1/2W N. I. R.
1RL1	48183100 or 48183200	Relay, DC 24V Relay
△ mD1	49482000	RBA-402
•Zener Diode		
mDZ1	49306000 or 49306100 or 49306200	05AZ15-X 05AZ15-Y 05AZ15-Z
mDZ2	49306000 or 49306100 or 49306200	05AZ15-X 05AZ15-Y 05AZ15-Z
mDZ3	03171100 or 03171200	RD18F B RD18F B3
△ mR2, 3	46244600	6.8kΩ 1W N. I. R.
△ mR4, 5	46243800	1.5kΩ 1W N. I. R.
△ mR6	46625300	680Ω 2W N. I. R.
mC4	49114800 or 49505700	4700μF 42V E. C. <XX, SS> 5600μF 42V E. C. <XX, SS>
mC5	49114800 or 49505700	4700μF 42V E. C. <XX, SS> 5600μF 42V E. C. <XX, SS>
•Transistor		
nQ1	46834200	DTA144ES
•Diode		
nD1	46464100	1SS133
•LED		
nLD1	49379000	SEL2910A, PHONO
nLD2	49379000	SEL2910A, TUNER
nLD3	49379000	SEL2910A, LINE
nLD4	49379000	SEL2910A, CD
nLD5	49379000	SEL2910A, TAPE 1

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Parts No.	Stock No.	Description
nLD6	49378800	SEL2210S, TAPE 2
nLD7	49378800	SEL2210S, CD DIRECT
oC2~6	48426900	2200pF 25V C. C.
oC101~103	48663400	470pF 50V C. C. <EG>
oC104	48663200	330pF 50V C. C. <EG>
oC105	48663400	470pF 50V C. C. <EG>
oC106	48663200	330pF 50V C. C. <EG>
oC107	48663400	470pF 50V C. C. <EG>
oS1	49481500	Push, SW., FUNCTION
oS2	49481600	Push, SW., CD DIRECT
oZ1	46947500	8P Speaker Terminal
oZ2	48528400	2P TERMINAL BOARD, PHONO
oZ3	48528600	6P TERMINAL BOARD, CD, LINE, TUNER
oZ4	48528500	4P TERMINAL BOARD, TAPE 1
oZ5	48528500	4P TERMINAL BOARD, TAPE 2

3-2. F-6266 Power Switch Board

Component Side

Parts No.	Stock No.	Description
△ pC1	48732700	0.01μF 400V C. C.
△	or 48733500	0.01μF 400V C. C.
△	or 48734400	0.01μF 400V C. C.
△ pS1	46364300	Push SW., POWER

3-3. F-6267 Power Fuse Board

Component Side

Parts No.	Stock No.	Description
△ pF1	07184800	AC Fuse 1.25A <EU, UK, EG>
△ pF1	48721200	AC Fuse 1.5A <XX, SS>
△ pF2	48721200	AC Fuse 1.5A <XX, SS>

3-4. F-6269 Volume Board

Component Side

Parts No.	Stock No.	Description
jVR1	49481000	250 KMN V. R., BALANCE
jVR2	49480900	150 KBx2 V. R., VOLUME
oS3	49481400	Push Switch, LOUDNESS

3-5. F-6270 Tone Control Volume Board

Component Side

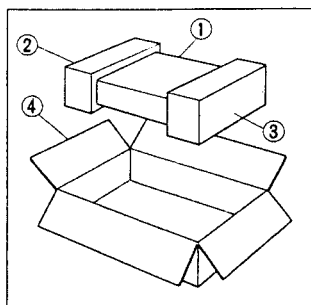
Parts No.	Stock No.	Description
jC4	48103000	0.22μF 50V E. B.
jC5	48103700	4.7μF 50V E. B.
jVR3	49480800	50kΩ V. R. TONE CONTROL

3-6. F-6271 Headphone Jack Board

Component Side

Parts No.	Stock No.	Description
△ kR13	46242800	220Ω 1W N. I. R.
oS4	49481700	Push SW., SYSTEM
oJ1	49495100	Headphone Jack

4. PACKING & ACCESSORY LIST

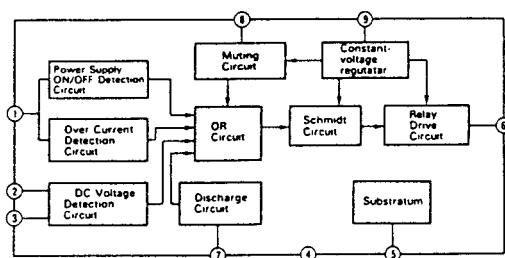


Parts List

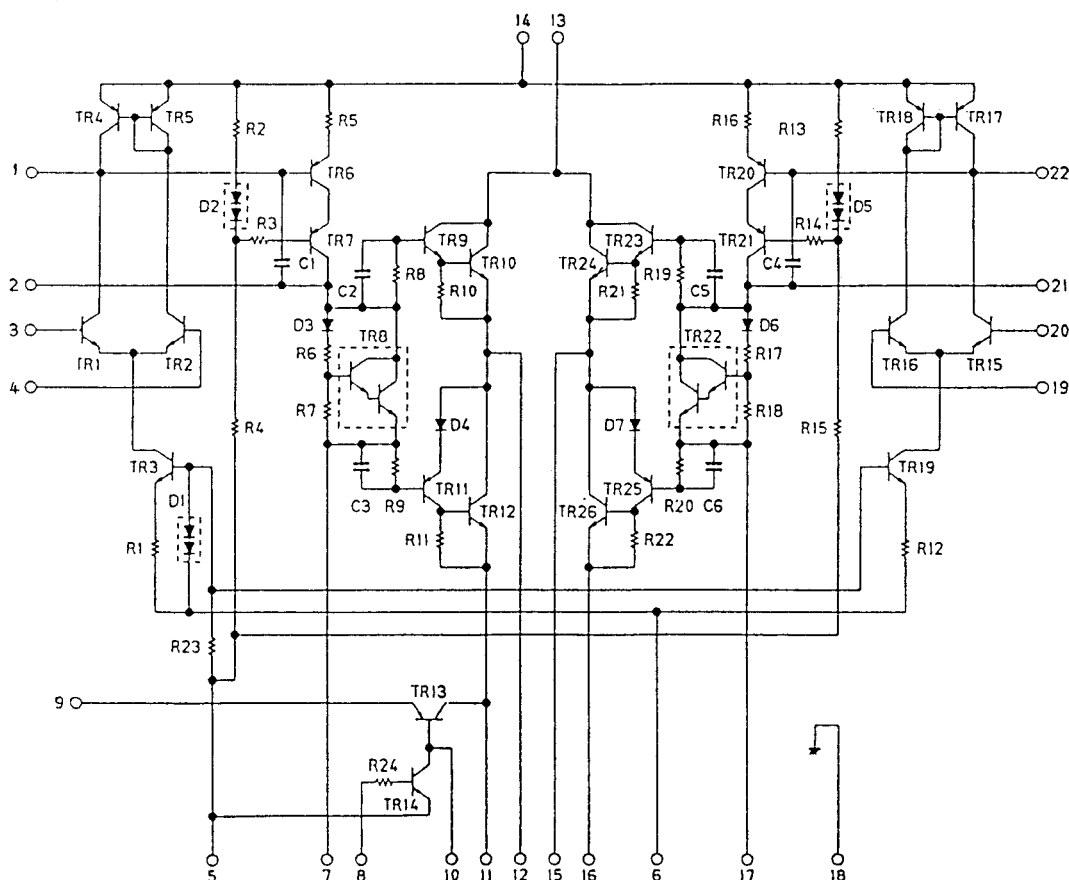
Parts No.	Stock No.	Description
1	47859100	Vinyl Bag
2	27831500	Styrofoam Packing, left
3	27831600	Styrofoam Packing, right
4	27831400	Carton Case
	19061900	Operating Instructions

5. INTERIOR BLOCK DIAGRAM OF IC

● TA7317P (Protector)



● STK4151X (Power Amp.)



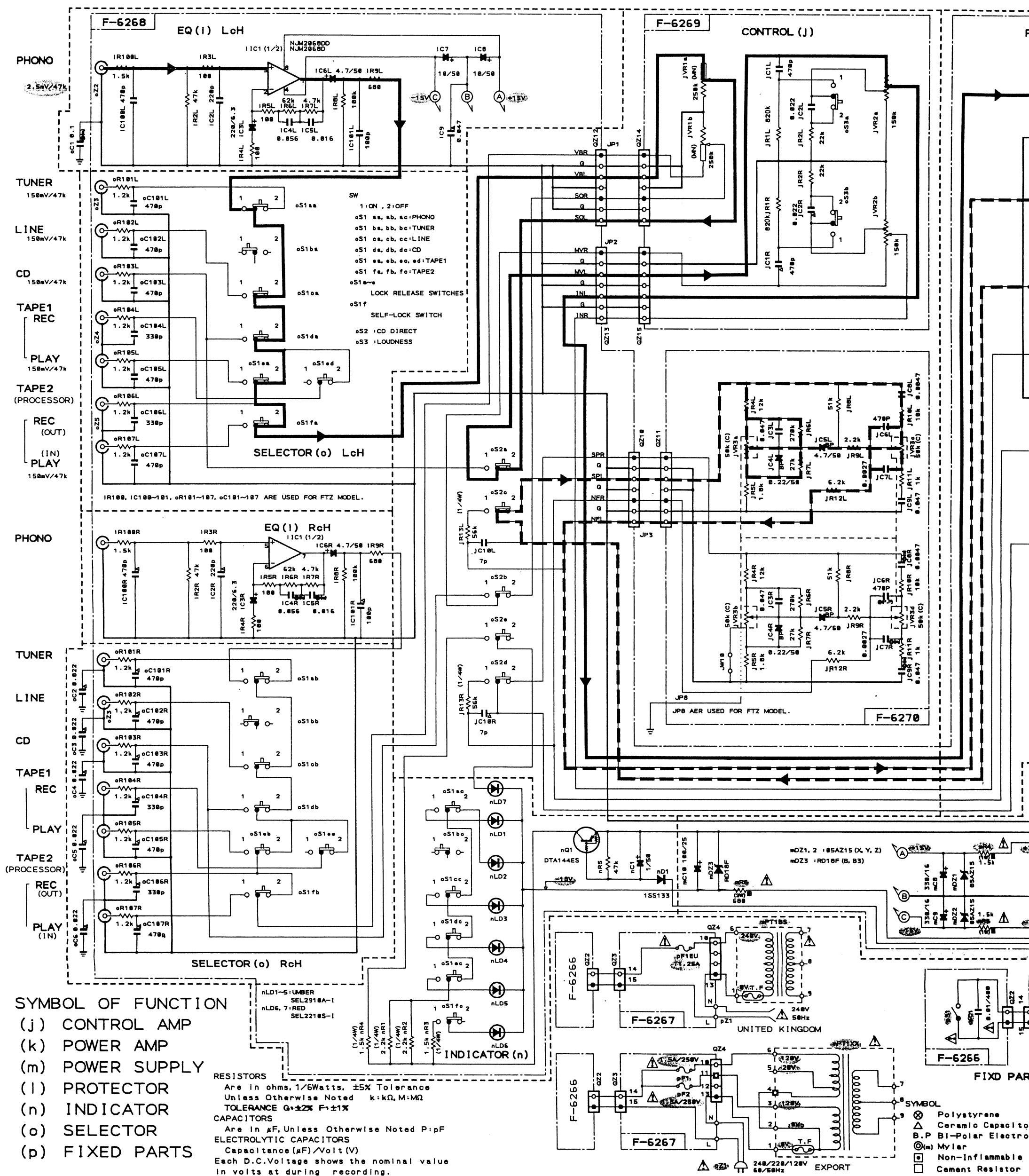
A

B

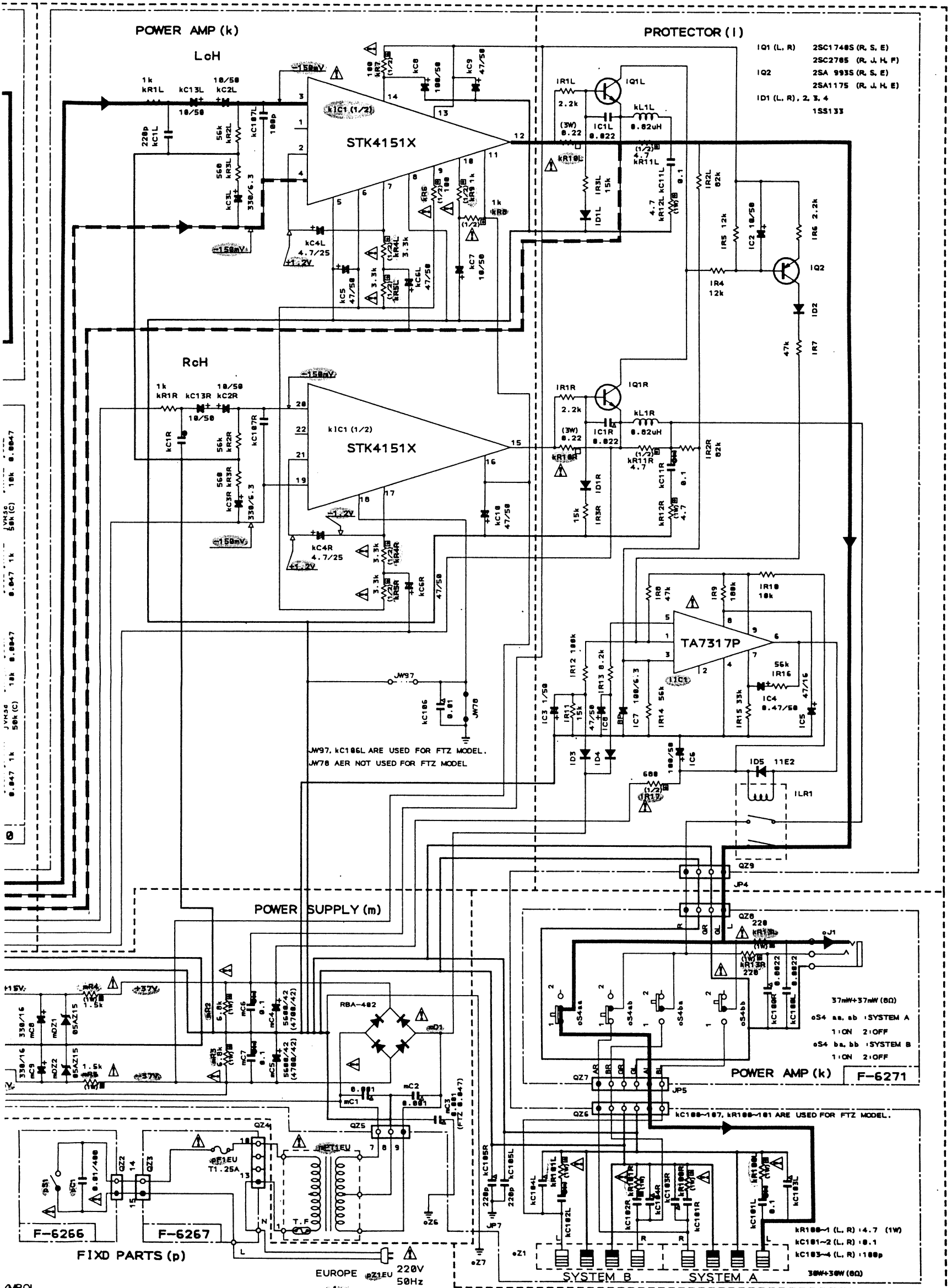
C

D

6. SCHEMATIC DIAGRAM



• Design and specifications subject to change without notice for improvement.
• La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
• Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



11E2

1SS133

RBA402

05AZ15
RD18F

TA7317P

STK4151X

NJM2068D

Dot or Slit or Line

2SA1175
2SA933
2SC1740

DTA144
2SC2785

1

2

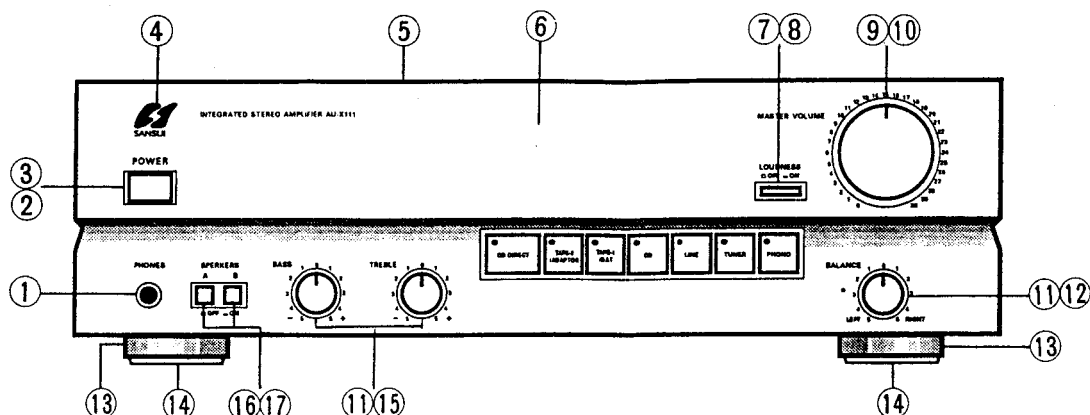
3

4

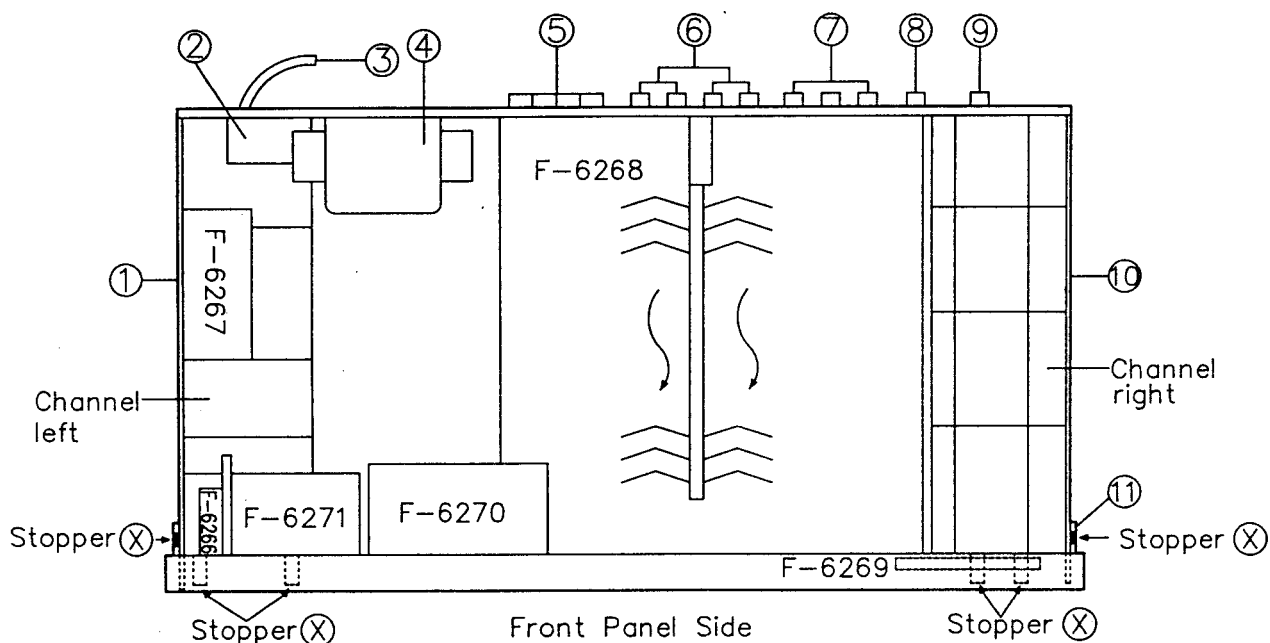
5

7. OTHER PARTS

<Front View>



<Top View>



Parts List <Front View>

Parts No.	Stock No.	Description
1	49495100	Headphone Jack
△ 2	46364300	Push SW., POWER
3	27821500	Knob, POWER
4	27833300	Logo Badge
5	27835300	Bonnet
6	27826200	Front Panel A, Outside
7	49481400	Push SW., LOUDNESS
8	27821400	Knob, LOUDNESS
9	27821210	Knob, VOLUME
10	49480900	VOLUME, 150kΩ
11	27821300	Knob, TONE/BALANCE
12	49481000	BALANCE Volume, 250kΩ
13	27857010	Ling for Leg
14	27842000	Leg Sheet
15	49480800	Tone Control VR., 50kΩ
16	84580000	Knob, SPEAKERS
17	49481700	Push SW., SPEAKERS

Parts List <Top View>

Parts No.	Stock No.	Description
1	27820710	Channel, left
2	47157300	AC Cord Cover
△ 3	46407700	Power Supply Cord <XX>
△	48837700	Power Supply Cord <SS>
△	49299300	Power Supply Cord <EU, EG>
△	49252900	Power Supply Cord <UK>
△ 4	15036901	Power Transformer <XX, SS>
△	15036905	Power Transformer <EU, EG>
△	15036906	Power Transformer <UK>
5	46947500	8P Speaker Terminal
6	48528500	4P Terminal, TAPE 1/TAPE 2
7	48528600	6P Terminal, CD/LINE/TUNER
8	48528400	2P Terminal, PHONO
9	22301510	Ground Terminal
10	27820810	Channel, right
11	27835800	Front Panel B, inside (refer to Fig. 8-1 on page 7)

8. REPLACEMENT OF THE FRONT PANEL

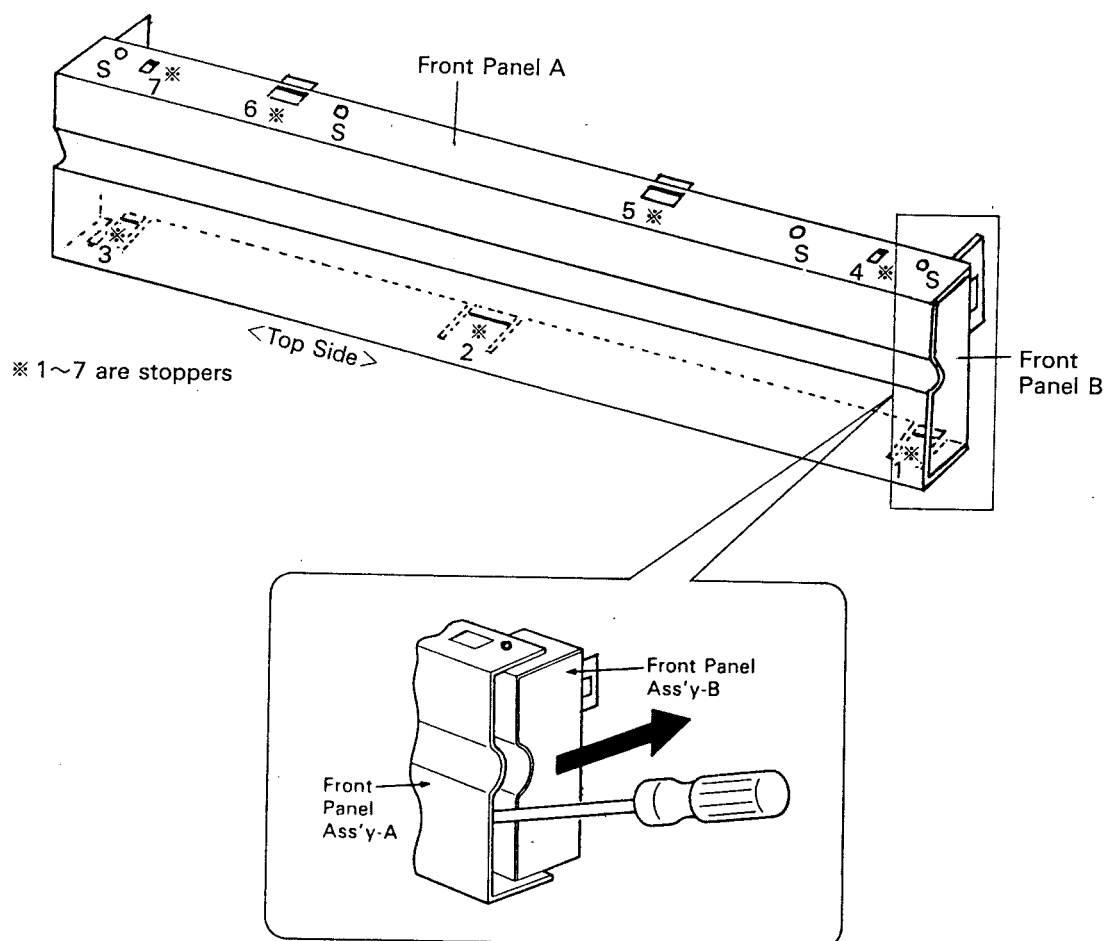
A. How to remove the Front Panel A and B

1. Remove the bonnet.
2. Remove the four fixing screws (S) of front panel.
3. Pull out the four knobs.
4. Loosen the four nuts to remove the volume.
5. Remove the four board, F-6271, F-6266, F-6270, F-6269 from front panel B.
6. Unhook six stoppers (X) to remove the front panel from set.
(Refer to Top View on page 7)
7. Pull out the front panel A and B from channel right & left.

B. How to remove the Front Panel B from Front Panel A

1. Remove the front panel A and B from set.
2. Unhook a stopper 1.
3. Inset the flattype driver as Fig. 8-1.
4. To separate the front panel A and B, unhook six stoppers in order from ※2 to ※7, in all while pushing a front panel ass'y B to the arrow direction.

Fig. 8-1



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